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December 13, 1991

Catellus Development Corporation
201 Mission Street, 30th Floor
San Francisco, California 94105

Attention: Aniko Molnar

Final Report
Phase II Environmental Assessment Addendum
LaSalle Property, 12310 Slauson Avenue
Santa Fe Springs, California
For: Catellus Development Corporation
Dames & Moore Job No.: 14858-025-128

THIS PAGE

Dear Aniko,

Enclosed herewith are four copies of the final LaSalle Phase II Environmental Assessment Addendum Report. The findings of this investigation, together with the data presented in the Phase II Environmental Assessment Report dated May 10, 1991, strongly indicate that former site features located on the LaSalle property (such as the clarifier) have not adversely impacted soil and groundwater. It is our opinion that the VOCs and metals above MCLs that have been detected onsite are related to offsite sources. The direction of groundwater movement and lack of an onsite source indicates that the chemicals detected in groundwater beneath the LaSalle property are moving onto the site from offsite sources. No further subsurface investigations are recommended at this time.

Please contact us if you have any questions or would like additional information.

Sincerely,
DAMES & MOORE

James E. McNally
Associate

Debra B. Stott
Project Geologist

FINAL REPORT
PHASE II ENVIRONMENTAL ASSESSMENT ADDENDUM
LASALLE PROPERTY
12310 SLAUSON AVENUE
SANTA FE SPRINGS, CALIFORNIA
FOR: CATELLUS DEVELOPMENT CORPORATION

1.0 INTRODUCTION

Dames & Moore is pleased to present this Phase II Environmental Assessment Addendum Report on behalf of Catellus Development Corporation (Catellus). This report describes an additional soil and groundwater investigation performed at the property at 12310 Slauson Avenue in Santa Fe Springs, California (LaSalle property). The LaSalle property occupies approximately 10 acres and has recently been developed with a 200,000 square foot one-story warehouse/office structure (Figures 1 and 2). The LaSalle property is currently bordered to the north and northeast, across Slauson Avenue, by light industrial and commercial buildings, to the east by a warehouse structure and truck fueling facility, to the south by a concrete-lined flood control drainage channel, and to the northwest by undeveloped property (Figure 1A).

Dames & Moore completed the Phase II Environmental Assessment at the LaSalle property in May, 1991. The results of the Phase II Environmental Assessment showed that potential onsite sources formerly located on the site (such as two clarifiers, two underground storage tanks, service pits, and hydraulic hoists (see Figures 3 and 4)) have not impacted site soils. Additional findings showed that the former potential sources have not contributed to the groundwater contamination that was detected onsite.

However, the soils in the vicinity of one of the former clarifiers (approximately 1000-gallon sand and grease separator formerly located at the northwest corner of Building 1), located beneath the present LaSalle building, were not accessible during the Phase II Environmental Assessment. Additionally, groundwater conditions along the eastern portion

of the LaSalle property were not fully investigated. Initial estimates of the direction of groundwater flow indicated that groundwater flowed in a southwesterly direction. There was a lack of information regarding the quality of groundwater moving under the site from the east. The purpose of this Phase II Environmental Assessment Addendum was to sample soil beneath the former 1000-gallon clarifier and further assess groundwater quality and gradient to evaluate if potential former onsite sources had impacted onsite soils and groundwater.

2.0 BACKGROUND

Background information related to the LaSalle property is presented in detail in Dames & Moore's Final Report, Phase II Environmental Assessment, LaSalle Property, dated May 10, 1991. A brief summary of the background information is presented below.

Historic aerial photographs indicate that the LaSalle property appeared to be agricultural from approximately 1928 through 1962. In 1963, the property appeared to be covered with asphalt. From 1963 through 1988, the LaSalle property was a portion of a new automobile preparation facility that occupied the adjacent property to the west. The LaSalle property was used for parking of automobiles through the 1960's. In the early 1970's two buildings (Buildings 1 and 2 (Figures 3 and 4)) were constructed at the south end of the property for use in automobile emissions control testing. These facilities were demolished in 1988.

Information collected and presented in the Phase II Environmental Assessment report indicated that groundwater onsite and in the site vicinity has been affected by low levels of volatile organic compounds (VOCs). Analytical results from soil samples indicated that VOCs and total petroleum hydrocarbons (TPH) were not found in soils in the vicinity of former site structures which were investigated as potential sources of contamination. The data also indicate that the presence of chlorinated solvents in groundwater is a regional phenomenon and does not appear to be attributed to sources related to past or present site use.

3.0 PURPOSE AND SCOPE

The purpose of the Phase II Environmental Assessment Addendum was to: (1) evaluate subsurface soils in the vicinity of the former 1000-gallon clarifier previously located on the southern portion of the LaSalle property; and (2) further evaluate groundwater quality and gradient.

To accomplish these objectives, Dames & Moore performed the following services:

- Located the position of the former clarifier within the confines of the LaSalle building;
- Conducted a utilities clearance survey using geophysical techniques to help locate buried pipelines, electrical lines, and other subsurface obstructions within the areas to be explored. Underground Service Alert was also contacted to help establish the approximate locations of subsurface utilities within public access areas around the site;
- Cut through the concrete floor of the LaSalle building to provide access to subsurface soils;
- Advanced and sampled at approximately five-foot intervals, three soil borings through the floor of the LaSalle building within the vicinity of the former clarifier to approximately 35 feet below ground surface (bgs);
- Analyzed selected soil samples from the three borings for VOCs by EPA Method 8240, TPH and BTEX by EPA Method 8015 modified for diesel, pH by EPA Method 150.1, semi-volatile organic compounds (SVOCs) by EPA Method 8270, and California Code of Regulations (CCR) Title 26 Metals by various EPA Methods;

- Installed two monitoring wells (MW-7 and MW-8) to approximate total depths of 50 feet and 47 feet bgs respectively at two locations along the eastern side of the LaSalle building;

- Collected soil samples from the monitoring well boreholes at five-foot intervals from 5 feet bgs to 50 feet bgs for soils classification and laboratory analyses;

- Analyzed soil samples from the monitoring well boreholes from sample depths of approximately 5 (or directly below the base of backfilled soil), 15, and 25 feet bgs for VOCs by EPA Method 8240 and TPH and BTEX by EPA Method 8015 modified for diesel.

- Submitted two soil samples collected from the saturated zone from the two monitoring wells for grain size analysis;

- Surveyed the vertical and horizontal locations of MW-7 and MW-8 relative to an established benchmark;

- Developed monitoring wells MW-7 and MW-8 and sampled all onsite monitoring wells;

- Analyzed groundwater samples for VOCs, TPH and BTEX, and CCR Title 26 metals;

- Logged boreholes and classified soils using the Unified Soil Classification System; and

- Prepared this report describing the investigation performed, summarizing our field observations and data analysis, and providing our conclusions and

recommendations for further evaluation or remediation as appropriate.

3.1 ADDITIONAL SOIL CHARACTERIZATION

Dames & Moore selected the three soil boring locations shown on Figure 5 because soils in the vicinity of the former 1000-gallon clarifier could not be sampled during the Phase II Environmental Assessment. Based on a 1988 aerial photograph of the property and information provided in a McLaren Environmental Engineering report dated January 11, 1989, Pfeiler and Associates, Engineers, surveyed in the former location of the clarifier. Borings B-4, B-5, and B-6 were advanced to approximately 35 feet bgs within the immediate vicinity of the former 1000-gallon clarifier associated with the former Building 1. Figure 5 shows the locations of borings B-1 through B-6. Borings B-1 through B-3 and A-1 through A-4 were completed in April 1991. Borings B-4 through B-6 were completed in September 1991.

3.2 ADDITIONAL GROUNDWATER CHARACTERIZATION

The Phase II Environmental Assessment at the LaSalle property and a subsequent round of groundwater level measurements made in July and October, 1991 indicated a west-southwest groundwater flow direction in the uppermost saturated zone. The Phase II Environmental Assessment also indicated that groundwater was first encountered at approximately 35 feet bgs. Based on this information, two groundwater monitoring wells (MW-7 and MW-8) were installed on the eastern border of the property to a depth of approximately 50 feet bgs at the locations shown on Figure 5. Wells MW-7 and MW-8 were installed in positions upgradient of potential onsite sources of groundwater contamination and in positions downgradient of offsite sources of groundwater contamination. In addition to MW-7 and MW-8, onsite monitoring wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, and GW-6 were sampled October 8-9, 1991 to provide groundwater information. Ten monitoring wells on the adjacent properties to the west and northwest (Figure 6) were sampled October 8-9, 1991.

4.0 INVESTIGATIVE PROCEDURES

4.1 FIELD PROCEDURES

In conducting the field activities described herein, Dames & Moore utilized procedures consistent with internal QA/QC policies as well as Los Angeles Regional Water Quality Control Board (RWQCB) guidelines. All work was conducted under the technical supervision of a California Registered Geologist. Procedural details regarding exploratory drilling, soil sampling, installation and development of groundwater monitoring wells and groundwater sampling are presented in Appendix A.

4.2 HEALTH AND SAFETY PLAN

In accordance with OSHA regulations, a site-specific Health & Safety Plan was developed for the environmental assessments completed at the LaSalle property. All field personnel were required to implement the procedures presented in this document while conducting onsite field work.

4.3 LOCATING PROPOSED BORINGS AND SUBSURFACE OBSTRUCTIONS

In order to properly locate the proposed soil boring and monitoring well locations with respect to the previous location of the 1000-gallon clarifier, a licensed surveyor was contracted to mark the former location of the clarifier within the confines of the LaSalle building. Prior to conducting any drilling, Underground Service Alert was contacted to assess the location of offsite underground utilities. Spectrum Environmental Services, Inc., a geophysical surveying company, was utilized to locate possible subsurface obstructions at each proposed boring and monitoring well location. In addition, the licensed surveyor and Dames & Moore personnel evaluated existing building plans regarding public utilities and other pertinent underground obstructions to select final boring and monitoring well locations.

4.4 ANALYTICAL PROGRAM

4.4.1 Soil Analyses

During the drilling of each exploratory soil boring and installation of groundwater monitoring wells, relatively undisturbed soil samples were collected at approximately 5-foot sample intervals. Selected soil samples were analyzed for TPH, VOCs, SVOCs, and CCR Title 22 metals (Table 1).

Borings B-4, B-5, and B-6 are located within the vicinity of the former 1000-gallon clarifier (Figure 5). Monitoring wells MW-7 and MW-8 are located at positions along the east side of the LaSalle property. Each soil sample from the three borings submitted for analysis was analyzed for the following:

TPH	-	EPA Method 8015 modified for diesel
VOCs	-	EPA Method 8240
SVOCs	-	EPA Method 8270
pH	-	EPA Method 150.1 (borings B-4 through B-6)
metals	-	EPA Methods 6010, 7060, 7421, 7470, 7740 and 7841

Soil samples from monitoring wells MW-7 and MW-8 were analyzed for TPH and VOCs.

4.4.2 Groundwater Analyses

Groundwater samples collected from monitoring wells MW-1 through MW-6 and GW-6 were analyzed for VOCs, TPH (as gasoline), benzene, toluene, ethlybenzene and xylene (BTEX), and CCR Title 26 metals by EPA Methods 624, 8015 (modified), and 8020, respectively. CCR Title 26 metals were analyzed by EPA Methods 6010, 7060, 7421, 7740, and 7841.

4.4.3 Laboratory Procedures

Laboratory chemical analyses of all soil and groundwater samples were conducted by Curtis & Tompkins, Ltd., Analytical Laboratories. Curtis & Tompkins is a California Department of Health Services certified laboratory for the analyses that were performed. With each analytical report, the laboratory submitted results of various laboratory QA/QC analyses such as surrogate recoveries and various practical quantitative limits. QA/QC procedures included collection and analysis of duplicate groundwater samples, travel blanks, and field blanks.

5.0 GEOLOGIC AND HYDROLOGIC CONDITIONS

Regional geologic and hydrogeologic conditions in the vicinity of the LaSalle property were discussed in detail in the Phase II Environmental Assessment report prepared by Dames & Moore dated May 10, 1991. This report will focus on the local conditions as encountered during the Phase III investigation.

5.1 LOCAL CONDITIONS

5.1.1 Soils

Lithologic logs of the three borings and two monitoring wells, presented in Appendix B, indicate that the subsurface soils range from gravelly sand, sand, silty sand and sandy silt mixtures to silt, silty clay and clayey silt mixtures. Generally, fill material consisting of silty sand was encountered from the surface or just below the paved surface to depths ranging from approximately 3 to 5 feet bgs. Clayey soils were found at depths ranging from approximately 5 to 35 feet bgs in the monitoring wells and from approximately 5 to 10 feet bgs in the borings. Sandy soils encountered from approximately 10 to 15 feet bgs were underlain by clayey soils to approximate depths of 22 to 25 feet bgs in the three borings. Sandy soils were then encountered to the base of each boring at 35 feet bgs. Sandy soils

were also encountered to just above the base of each monitoring well borehole at approximately 50 feet bgs. Sandy gravel was encountered at the base of each monitoring well. These shallow deposits represent Recent alluvium (CDWR, 1961). The coarse sediments encountered at the base of each monitoring well are interpreted to represent the upper portion of the Gage aquifer.

5.1.2 Local Groundwater

Groundwater was first encountered in boreholes MW-7 and MW-8 at depths of approximately 37 feet bgs. Water level measurements made in September and October, 1991 indicate that groundwater encountered beneath the eastern portion of the site is found within the Recent alluvium and the coarse-grained sediments interpreted to be the top of the Gage aquifer. On September 18 and October 9, 1991, depth to groundwater was measured in onsite monitoring wells MW-1 through MW-8 and GW-6 (Table 2). Groundwater flow direction and gradient were calculated using water level data obtained from the nine onsite and 10 offsite wells.

The calculated groundwater flow direction for October, 1991 across the LaSalle property is toward the west-southwest at a gradient of 0.002 (Figure 7). Figure 7 also shows the groundwater elevation contours and flow lines for the adjacent properties to the west and northwest so that the hydrologic relationship between the LaSalle property and those to the northwest can be understood. Groundwater flows from the adjacent properties to the west toward the south-southwest onto the LaSalle property. Conversely, groundwater also flows onto the LaSalle property from the northeast and east. As shown on Figure 7, the flow directions vary across the properties and begin to converge at the south end of the LaSalle property. This flow pattern represents the regional groundwater flow pattern and is controlled by the regional topography. Topographic maps of the Santa Fe Springs area show that the LaSalle property is located within a structural low that receives subsurface flow from the north, west, south, and east. The outlet for this "basin" is to the southeast.

As discussed in the May 10, 1991 Phase II Environmental Assessment report prepared by Dames & Moore, groundwater quality in the region has been impacted by releases of hazardous substances to soil and groundwater from several sources in the area. As a result of these releases, chlorinated solvents such as tetrachloroethene (PCE), trichloroethene (TCE), and 1,2-dichloroethene (1,2-DCE) as well as dissolved metals have been detected in the immediate vicinity of the LaSalle property. Properties located directly east (Lincoln Industrial Center) and west (Central property) of the LaSalle property have reported releases of contaminants to groundwater.

Analytical data presented in the May 10, 1991 report indicate that the highest concentrations of chlorinated compounds (TCE, PCE, 1-2 DCE) in groundwater were associated with monitoring wells MW-1, MW-2, MW-3, and MW-7 on the Central property, west of the LaSalle property. Elevated concentrations of the same chlorinated compounds were also detected in monitoring wells MW-4, MW-9, MW-10, and MW-11 on the Multitenant property to the northwest. Although these adjacent properties may not represent the sources of chlorinated compounds, both are located upgradient of the LaSalle property. Analytical data from three monitoring wells located on the adjacent, upgradient property to the east (Lincoln Industrial Center), also showed the presence of chlorinated compounds (TCE and PCE) and BTEX in groundwater.

The same compounds found in upgradient monitoring wells to the west and east of the LaSalle property were also found in onsite monitoring wells. Based on the data presented herein, it is likely that the chemicals found in groundwater from beneath the LaSalle property originated from offsite sources.

6.0 INVESTIGATIVE RESULTS

6.1 FIELD OBSERVATIONS

Exploratory drilling completed through the floor of the LaSalle building and along

the eastern property boundary revealed a relatively uniform layer in the upper 25 feet of sediment consisting of a dark brown, very dense, silty clay to clayey silt. Underlying the fine-grained layer, sediments graded from fine to medium to coarse-grained sand with gravel. Shallow groundwater was encountered in monitoring well boreholes at approximately 37 feet bgs.

During the soil sampling procedures, concentrations of total organic vapors ranging from 0 to 25 parts per million (ppm) were detected in samples collected from each sample interval from borings B-4 through B-6 with a MicroTip organic vapor detector. A total organic vapor measurement of 112 ppm was recorded for sample no. 4 at 20 feet bgs from boring B-6 (VOCs were not detected during analysis of this sample). There were no detectable concentrations of organic vapors recorded while drilling the monitoring well boreholes. No hydrocarbon odors, soil staining or other evidence of soil contamination were observed by field sampling personnel. Logs of all exploratory borings advanced at the LaSalle property which include measured concentrations of organic vapors in soil samples are presented in Appendix B.

6.2 SOIL ANALYTICAL DATA

The analytical results are discussed below by laboratory analysis type, and summarized in Table 1. The analyses are discussed as follows:

- Total petroleum hydrocarbons (as gasoline, kerosene, and diesel);
- Volatile organic compounds;
- Semi-volatile organic compounds;
- CCR Title 26 metals; and
- pH.

Laboratory analytical reports for soils and completed chain-of-custody records are presented in Appendix C.

Total Petroleum Hydrocarbons

Soil samples collected in each boring B-4 through B-6, MW-7 and MW-8 were analyzed for TPH (as gasoline, kerosene, and diesel) by EPA Method 8015 modified. TPH was not detected above the analytical detection limit in any of the 25 samples analyzed (Table 1).

Volatile Organic Compounds

A total of 25 soil samples from the three borings and the two monitoring wells were analyzed for VOCs by EPA Method 8240. No detectable concentrations of VOCs were reported for 23 of the 25 samples (Table 1). PCE was detected in soil samples from borings B-4 and B-5 at 15 and 5 feet bgs, respectively. The concentration of PCE was 6 μg/Kg at 15 feet bgs in boring B-4 and 9 μg/Kg at 5 feet bgs in boring B-5.

PCE was not detected at 10, 25 30, and 35 feet bgs in boring B-4. PCE was not detected at 10, 15, 20, 25, 30, and 35 feet bgs in boring B-5. PCE was not detected in any of the samples from boring B-6. No VOCs were detected in samples from MW-7 and MW-8.

Semi-Volatile Organic Compounds

Soil samples at 5, 20, and 30 feet bgs from boring B-5 were analyzed for SVOCs by EPA Method 8270. These samples were chosen because PCE was detected at 5 feet bgs in this boring. Analytical results indicated that SVOCs were not detected above analytical limits of detection (Table 1).

CCR Title 26 Metals

A total of 14 soil samples from the three boreholes (B-4 through B-6) were analyzed for CCR Title 26 metals by various EPA Methods (Table 1). Analytical results revealed metal concentrations that ranged from non-detectable levels to low levels. The low levels are believed to be background metal concentrations that are associated with naturally occurring minerals. The most consistently detected metals included barium, beryllium,

chromium, lead, mercury, nickel, vanadium, and zinc.

pH

A total of 14 soil samples from the three boreholes (B-4 through B-6) were analyzed for pH by EPA Method 150.1. pH values ranged from 8.0 to 9.3 and thus are considered to be slightly alkaline (Table 1).

Summary

As shown on Figure 5, soil samples were collected from three locations within the vicinity of the former clarifier and two locations along the east property boundary. Analytical results for 25 selected soil samples revealed little evidence of soil contamination associated with the former clarifier. Although very low levels of PCE were detected in two soil samples, no VOCs were detected in samples collected from intervals beneath those in which PCE was detected, nor were VOCs detected in samples from similar lateral horizons. The concentrations of PCE detected in these two samples are not of sufficient concentration or extent to warrant remediation or pose a potential threat to groundwater.

6.3 GROUNDWATER ANALYTICAL DATA

Groundwater samples from each of the nine onsite wells, a blind duplicate, and a trip blank were submitted for chemical analyses that included VOCs, TPH and BTEX, and CCR Title 26 metals. The analytical results are summarized in Table 3. Copies of the laboratory data reports are contained in Appendix D. The findings are summarized below:

VOCs

- PCE was detected in samples from each well. The highest concentrations were detected in water samples collected from well MW-2 (540 µg/l). Concentrations of PCE in the eight other monitoring wells were less than 50 µg/l. The detected concentrations of PCE exceed the California Maximum

Contaminant Level (MCL) of 5 μg/l for drinking water in each of the onsite wells.

- TCE was detected in two monitoring wells, MW-2 and MW-3 at levels of 41 and 17 μg/l, respectively. TCE was not detected in the six other monitoring wells. Concentrations of TCE exceed the MCL of 5 μg/l for drinking water in MW-2 and MW-3.
- 1,2-dichloroethene (1,2-DCE), 1,1-dichloroethene (1,1-DCE), and carbon disulfide were also detected in groundwater samples from monitoring wells MW-2 and MW-3. The concentration of 1,2-DCE (54 μg/l) in MW-2 is greater than the MCL of 6 μg/l. The concentration of 1,1-DCE in MW-3 (5 μ/l) is below the MCL of 6 μ/l. There is no established MCL for carbon disulfide.
- No other VOCs were detected above the analytical limits of detection.

Fuel Hydrocarbons

- TPH analyses modified for gasoline indicated that TPH was not found above the analytical limit of detection in the nine monitoring wells.
- BTEX was not found above the analytical limits of detection in the nine monitoring wells

Metals

- Metals found in groundwater samples include arsenic, barium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, vanadium, and zinc.
- Chromium was found at 64 μ/l in MW-7, slightly above the MCL of 50 μ/l.
- Lead was also found in MW-7 at 7.2 μ/l, below the MCL of 50 μ/l.
- Other metals found at levels at or above the established MCL include mercury in MW-1 at 3.1 μ/l (MCL of 2 μ/l), and selenium in MW-2 (11 μ/l), MW-3 (18 μ/l), MW-6 (14 μ/l), and MW-7 (12 μ/l). The MCL for selenium

is 10 μ/l.

Figure 6 shows the distribution of chemical compounds found in groundwater samples. The highest detected concentration of VOCs was found in monitoring well MW-2. MW-2 is located along the western boundary of the LaSalle property, downgradient from the adjacent property to the west. The concentrations of PCE and TCE found in MW-2 was several times greater than the concentrations found in the other monitoring wells onsite. Concentrations of detected VOCs in wells located downgradient of potential onsite sources (MW-3, MW-4, MW-5) are generally consistent with those concentrations detected in upgradient and cross-gradient wells MW-1, MW-3, MW-5, MW-6, MW-7, MW-8 and GW-6.

Laboratory analyses for metals indicated the presence of low levels of metals in groundwater onsite. There is no discernable pattern of distribution of metals in the groundwater.

6.4 GROUNDWATER FLOW

Groundwater level measurements were recorded for the nine onsite monitoring wells and the ten monitoring wells on the adjacent properties on October 8 and 9, 1991. The groundwater elevations for each monitoring well were entered into a computerized contouring program (Quick Surf) and used to prepare Figure 7. Figure 7 represents the groundwater contours across the LaSalle property and the adjacent properties to the west. Groundwater flows from the adjacent properties to the west toward the south-southwest onto the LaSalle property. Conversely, groundwater also flows onto the LaSalle property from the northeast and east toward the west-southwest. As shown on Figure 7, the flow directions change across the properties and begin to converge at the south end of the LaSalle property. This flow pattern represents the regional groundwater flow pattern and is controlled by the regional topography. Topographic maps of the Santa Fe Springs area show that the LaSalle property is located within a structural low that receives subsurface flow from the north, west, south, and east. The outlet for this "basin" is to the southeast.

7.0 SUMMARY

Twenty-one soil samples were collected in the immediate vicinity of the former clarifier and 10 soil samples were collected from each monitoring well borehole as part of Dames & Moore's Phase II Environmental Assessment Addendum. No field evidence indicating the presence of subsurface contamination (such as elevated total organic vapor readings, stained soil or hydrocarbon odors) was noted. Of the 21 samples collected from the vicinity of the clarifier, 19 were analyzed for compounds associated with the former clarifier (TPH, VOCs, BTEX, metals, and SVOCs). Six samples from the monitoring well boreholes were analyzed for TPH and VOCs.

A single volatile organic compound, PCE, was detected at concentrations of 6 and 9 μ/l in two samples at depths of 15 and 5 feet bgs from borings B-4 and B-5, respectively. The analytical data indicates that neither PCE nor any other VOCs were found above or below a depth of 15 feet bgs in boring B-4 and 5 feet bgs in boring B-5. This indicates that the presence of these low levels of PCE in the soil are probably limited to the vicinity of the sampling locations and, therefore, are not widespread laterally or vertically. These concentrations of PCE are very low, do not threaten to impact groundwater, and are not of sufficient extent or concentration to warrant remediation.

The distribution of VOCs detected in groundwater below the LaSalle property and site vicinity strongly suggests that former site features have not impacted onsite groundwater. This is based on the nature and distribution of VOCs detected in: (1) offsite wells located west and northwest of the site on the adjacent properties; (2) upgradient onsite wells GW-6, MW-7, and MW-8 located along the north and east property boundaries; (3) onsite downgradient monitoring wells; and (4) onsite subsurface soils. The groundwater data is graphically represented on Figure 6.

The wells on the adjacent property to the west generally have significantly higher detected concentrations of VOCs. Analysis of groundwater samples from upgradient onsite

wells (GW-6, MW-7, and MW-8) indicates that low levels of chlorinated solvents (such as PCE. PCE was the only VOC detected in groundwater sampled in October 1991 from the wells along the northeast and east portions of the property) are moving onsite from upgradient sources to the northeast and east. VOCs detected in wells on the adjacent property to the east were generally higher in concentration than those VOCs detected in monitoring wells MW-4 through MW-6 in April 1991 (Dames & Moore, Phase II Environmental Assessment, May 10, 1991). Onsite downgradient monitoring wells do not show significantly increased concentrations of VOCs compared to upgradient onsite wells. Two onsite wells, MW-2 and MW-3, appear to have been impacted by groundwater movement from the adjacent property to the west-northwest. Concentrations of PCE and TCE in these two wells (particularly MW-2) are significantly higher than those found in the other onsite monitoring wells.

7.1 REGULATORY OVERVIEW

Investigation and remediation of soil and groundwater contamination falls under the jurisdiction of many California government agencies. The source of a hazardous materials release as well as the type, amount, and extent of contamination will generally dictate which agency or agencies may potentially become involved in providing oversight and/or approval of the investigation and remediation.

The two state agencies providing the most input in the site mitigation process are the California Regional Water Quality Control Board (RWQCB) and the California Department of Health Services, Toxic Substances Control Program (DHS). Based on state regulations and policies, both agencies have been charged with focusing their oversight efforts on identifying the source(s) of potential release of hazardous materials to the environment.

It has been Dames & Moore's experience that RWQCB staff in Los Angeles will attempt to locate the "discharge" or source of a release for purposes of initiating

enforcement actions to effect a cleanup of a site. Mr. Joshua Workman, manager of the Los Angeles RWQCB underground tank section, has indicated that if a site can be demonstrated it was or is not a source of groundwater contamination, the RWQCB will not initiate an enforcement action, even if the site overlies a contaminated aquifer.

The DHS has developed an internal policy that specifically states that it will not pursue or enforce action against a person who is a responsible party solely on the basis of ownership of land overlying contaminated groundwater. This policy has been stated in a Toxic Substances Control Division Management Memo #90-11 and is attached as Appendix E.

8.0 CONCLUSIONS AND RECOMMENDATIONS

The findings of this investigation, together with the data presented in the Phase II Environmental Assessment Report dated May 10, 1991, strongly indicate that former site features located on the LaSalle property (such as the clarifier) have not adversely impacted soil and groundwater. It is our opinion that the VOCs and metals above MCLs (see pages 13 and 14) that have been detected onsite are related to offsite sources. The direction of groundwater movement and lack of an onsite source indicates that the chemicals detected in groundwater beneath the LaSalle property are moving onto the site from offsite sources.

The following conclusions and recommendations were reached based on the field observations and laboratory data from this investigation.

- TPH was not detected in soil samples collected from the five boreholes;
- Detected concentrations of metals in soil samples are considered to be indicative of native conditions;

- VOCs were not detected in soil samples from B-6, MW-7, and MW-8;
- Concentrations of VOCs in soil samples in the immediate vicinity of the former clarifier are limited to two isolated samples. These samples were from boring B-4 at 15 feet bgs and boring B-5 at 5 feet bgs;
- PCE was detected in groundwater samples each of the nine onsite monitoring wells;
- Other VOCs in addition to PCE were found in MW-2, the closest well downgradient from the immediately adjacent property to the northwest;
- Neither TPH nor BTEX were detected in groundwater samples collected from the nine onsite monitoring wells;
- Dissolved metals detected in groundwater samples were above the MCL for chromium and selenium in MW-7, chromium in MW-2, mercury in MW-1, and selenium in MW-1, MW-2, MW-3, and MW-6.

Soils were found to be fine-grained and of low permeability, thereby restricting downward vertical migration. There was no visual or olfactory observation of stained or odiferous soils. VOCs were not detected in most soil samples and appeared to be restricted to two isolated samples at very low concentrations. These trace concentrations of PCE found in the two isolated soil samples from borings B-4 and B-5 are not related to the concentrations of PCE found in onsite monitoring wells, nor are they of sufficient concentration to require remediation.

In addition, based on the results of the Phase II Environmental Assessment and Environmental Assessment Addendum and Dames & Moore's experience on similar

RWQCB and California EPA policies, it is our opinion that it is highly unlikely that an owner or operator of the LaSalle property would be held liable by a state agency for the mitigation of groundwater contamination that has been detected and currently exists in monitoring wells installed on site.

Dames & Moore does not recommend additional soil investigations at the LaSalle property.

9.0 LIMITATIONS

The conclusions and recommendations presented in this report are professional opinions based solely upon observations of the site and our interpretation of the available analytical data as described in this report. They are intended exclusively for the purpose outlined herein and at the site location and project indicated. This report is for the sole use of Catellus Development Corporation. The scope of services performed in the execution of this investigation may not be appropriate to satisfy the needs of other users, and any reuse of this document or the findings, conclusions, or recommendations presented herein is at the sole risk of said user(s).

It should be recognized that this study was not intended to be definitive investigation of contamination at the subject property. Given that the scope of services for this investigation was limited, it is possible that currently unrecognized contamination may exist a the site and that the level of this contamination may vary across the site.

Opinions and recommendations presented herein apply to site conditions existing at the time of our investigation and those conditions reasonably foreseeable. They cannot necessarily apply to site changes or changes in applicable standards and practices of which this office is not aware and has not had the opportunity to evaluate. This report is intended for use in its entirety; no excerpt may be taken to be representative of the findings of this investigation.

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TABLES

TABLE 1

LABORATORY DATA - SOIL
LA SALLE PHASE II ADDENDUM

BORING	DEPTH	TPH (Modified 8015) mg/Kg			VOCs (EPA 8240) ug/Kg		SEMI VOCs (EPA 8270) ug/Kg
		Gasoline	Kerosene	Diesel	PCE	other VOCs	
MW-7	5	ND	ND	ND	ND	ND	NA
	15	ND	ND	ND	ND	ND	NA
	25	ND	ND	ND	ND	ND	NA
MW-8	5	ND	ND	ND	ND	ND	NA
	15	ND	ND	ND	ND	ND	NA
	25	ND	ND	ND	ND	ND	NA
B-4	10	ND	ND	ND	ND	ND	NA
	15	ND	ND	ND	6	ND	NA
	25	ND	ND	ND	ND	ND	NA
	30	ND	ND	ND	ND	ND	NA
	35	ND	ND	ND	ND	ND	NA
B-5	5	ND	ND	ND	9	ND	ND
	10	ND	ND	ND	ND	ND	NA
	15	ND	ND	ND	ND	ND	NA
	20	ND	ND	ND	ND	ND	NA
	25	ND	ND	ND	ND	ND	NA
	30	ND	ND	ND	ND	ND	NA
	35	ND	ND	ND	ND	ND	NA

c:\dbs\metana.tbl

TABLE 1 (Continued)
LABORATORY DATA - SOIL
LA SALLE PHASE II ADDENDUM

BORING	DEPTH	TPH (Modified 8015) mg/Kg			VOCs (EPA 8240) ug/Kg		SEMI VOCs (EPA 8270) ug/Kg
		Gasoline	Kerosene	Diesel	PCE	other VOCs	
B-6	5	ND	ND	ND	ND	ND	NA
	10	ND	ND	ND	ND	ND	NA
	15	ND	ND	ND	ND	ND	NA
	20	ND	ND	ND	ND	ND	NA
	25	ND	ND	ND	ND	ND	NA
	30	ND	ND	ND	ND	ND	NA
	35	ND	ND	ND	ND	ND	NA

ug/kg - micrograms per kilogram
mg/kg - milligrams per kilogram
PCE - tetrachlorethene
TPH - total petroleum hydrocarbons
VOCs - Volatile Organic Compounds
NA - Sample not analyzed for this constituent
ND - Constituent not detected

c:\dbe\metana.tbl

TABLE 1 (CONTINUED)
LABORATORY DATA - SOIL
LA SALLE PHASE II ADDENDUM

METALS & pH

Boring	Depth	CCR TITLE 26 METALS mg/kg																	
		Sb	As	Ba	Be	Cd	Cr	Co	Cu	Pb	Hg	Mo	Ni	Se	Ag	Tl	V	Zn	Soil Ph
B-4	10	ND	ND	200	0.48	ND	27	15	ND	ND	0.7	ND	23	ND	ND	ND	46	66	9.1
	15	ND	ND	200	0.69	0.59	22	15	ND	ND	0.65	ND	30	ND	ND	ND	48	71	9.3
	25	ND	ND	170	0.56	0.51	33	13	ND	6.2	0.2	ND	30	ND	ND	ND	53	74	8.7
	35	ND	0.6	48	0.18	ND	8.2	3.8	ND	6.4	0.78	ND	7.4	ND	ND	ND	17	25	9.0
B-5	10	ND	ND	83	0.21	ND	12	6.7	ND	0.7	0.97	ND	10	ND	ND	ND	21	32	9.0
	15	ND	ND	190	0.7	0.87	26	13	ND	8.3	0.81	ND	28	ND	ND	ND	45	73	9.2
	25	ND	ND	150	0.51	ND	27	16	ND	11	0.78	ND	27	ND	ND	ND	60	70	8.8
	30	ND	0.84	55	0.26	ND	14	6.2	ND	2.8	1.0	ND	12	ND	ND	ND	30	35	NA
	35	ND	ND	43	0.12	ND	9.2	4.3	ND	2.2	0.15	ND	8.6	ND	ND	ND	18	25	8.3
B-6	10	ND	ND	170	0.4	ND	24	13	ND	5.7	1.0	ND	20	ND	ND	ND	43	63	8.9
	15	ND	ND	190	0.72	0.73	29	14	ND	6.8	0.7	ND	32	ND	ND	ND	52	78	9.3
	25	ND	ND	140	0.63	ND	33	14	ND	7.0	0.76	ND	28	ND	ND	ND	64	81	8.5
	30	ND	ND	130	0.41	ND	26	14	ND	4.0	0.78	ND	22	ND	ND	ND	51	64	NA
	35	ND	ND	34	0.12	ND	6.8	4.6	ND	1.8	0.73	ND	5.8	ND	ND	ND	15	21	8.0

TABLE 2

MONITORING WELL INFORMATION/GROUND WATER EVALUATIONS
LA SALLE PROPERTY

MONITORING WELL	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	GW-6
TOTAL DEPTH OF WELL (FT)	48	48	47	47	49	48	50	47	50
SCREEN INTERVAL (FT)	23-48	23-48	22-47	22-47	24-49	23-48	25-50	22-47	30-50
ELEV. OF WELL TOP OF CASING (FT-MSL)	143.75	144.19	144.27	144.63	144.12	144.26	146.55	144.93	145.93
DEPTH TO WATER FROM TOP OF CASING (FT) ON 10/9/91	30.0	31.53	32.15	32.3	31.36	31.04	32.03	31.25	31.24
ELEV. OF WATER (FT-MSL)	113.75	112.66	112.12	112.33	112.76	113.22	114.52	113.68	114.69
DATE INSTALLED	MAR-91	MAR-91	MAR-91	MAR-91	MAR-91	MAR-91	SEPT-91	SEPT-91	1990

TABLE 3

LABORATORY DATA - GROUNDWATER
LASALLE PHASE II ADDENDUM

MONITORING WELL	ANALYSES									
	TPH MOD. EPA 8015 (µg/L)	BTEX EPA 8020 (µg/L)				VOLATILE ORGANICS EPA 8240 (µg/L)				
		B	T	E	X	TCE	PCE	1,2-DCE	Carbon Disulfide	1,1-DCE
MW-1	ND	ND	ND	ND	ND	ND	21	ND	ND	ND
MW-2	ND	ND	ND	ND	ND	41	540	54	92	ND
MW-3	ND	ND	ND	ND	ND	17	35	ND	ND	5
MW-4	ND	ND	ND	ND	ND	ND	19	ND	ND	ND
MW-5	ND	ND	ND	ND	ND	ND	38	ND	ND	ND
MW-6	ND	ND	ND	ND	ND	ND	15	ND	ND	ND
MW-7	ND	ND	ND	ND	ND	ND	9	ND	ND	ND
MW-8	ND	ND	ND	ND	ND	ND	6	ND	ND	ND
GW-6	ND	ND	ND	ND	ND	ND	7	ND	ND	ND

ug/L - Micrograms per liter
B - Benzene
T - Toluene
E - Ethylbenzene
X - Xylenes
TPH - Total Petroleum Hydrocarbons

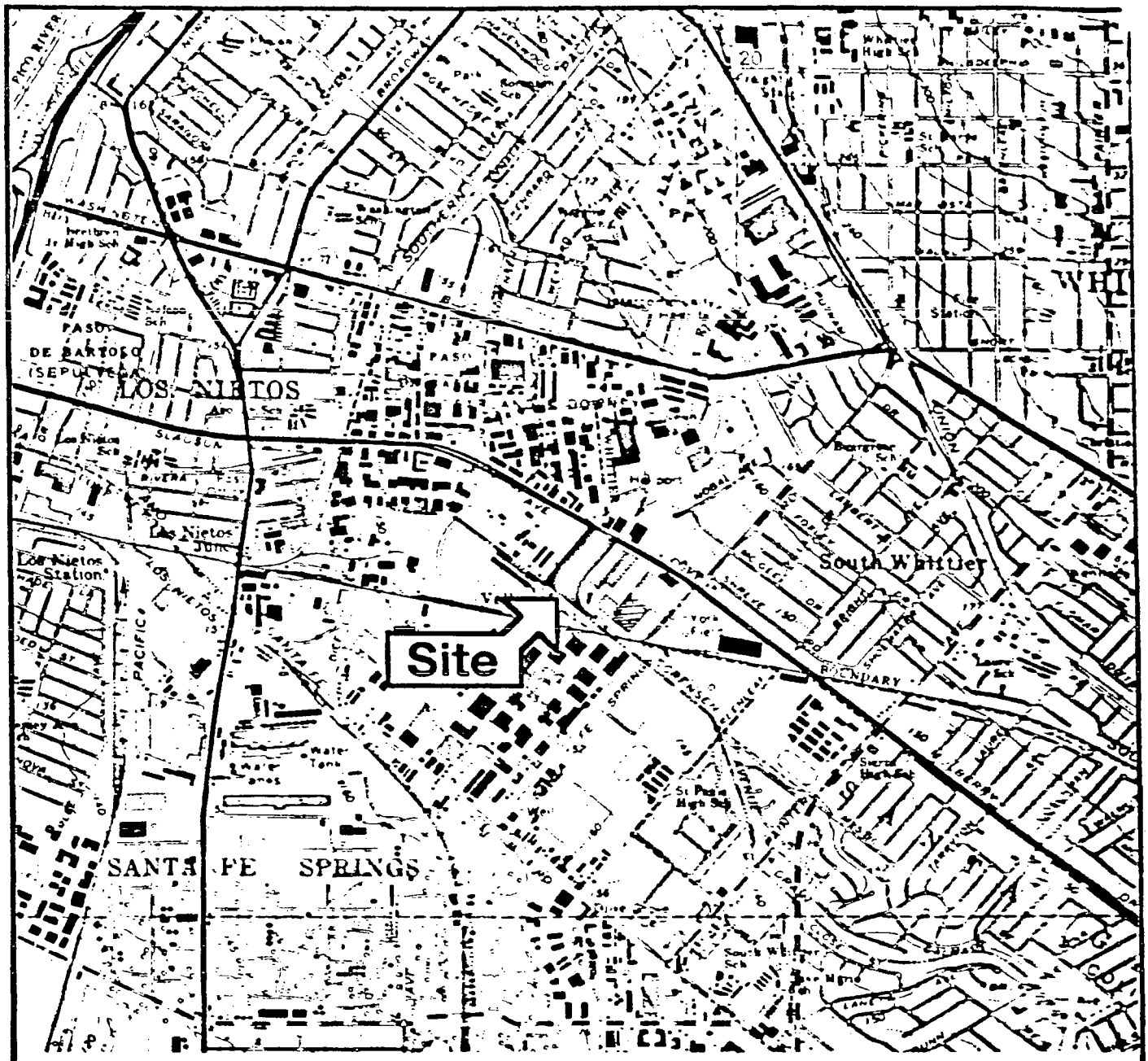
1,2-DCE - 1,2 - dichloroethene
TCE - Trichloroethene
PCE - Tetrachloroethene
1,1-DCE - 1,1-dichloroethene

c:\dbe\metane.tbl

TABLE 3 (Continued)
LABORATORY DATA - GROUNDWATER
LASALLE PHASE II ADDENDUM

MONITORING WELL	METALS (µg/L)																
	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Pb	Hg	Mo	Ni	Se	Ag	Tl	V	Zn
MW-1	ND	ND	99	ND	ND	10	ND	ND	ND	3.1	ND	42	7.2	ND	ND	20	75
MW-2	ND	ND	130	ND	ND	15	ND	13	ND	ND	17	34	11	ND	ND	17	400
MW-3	ND	ND	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	18	ND	ND	13	380
MW-4	ND	ND	36	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.6	ND	ND	ND	70
MW-5	ND	ND	62	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.8	ND	ND	11	99
MW-6	ND	ND	35	ND	ND	ND	ND	ND	ND	ND	21	180	14	ND	ND	ND	210
MW-7	ND	10	330	ND	ND	64	32	ND	7.2	ND	16	50	12	ND	ND	120	290
MW-8	ND	ND	81	ND	ND	ND	ND	ND	ND	1.7	15	ND	10	ND	ND	18	86
GW-6	ND	ND	72	ND	ND	11	ND	ND	ND	ND	29	ND	7.1	ND	ND	25	94

FIGURES



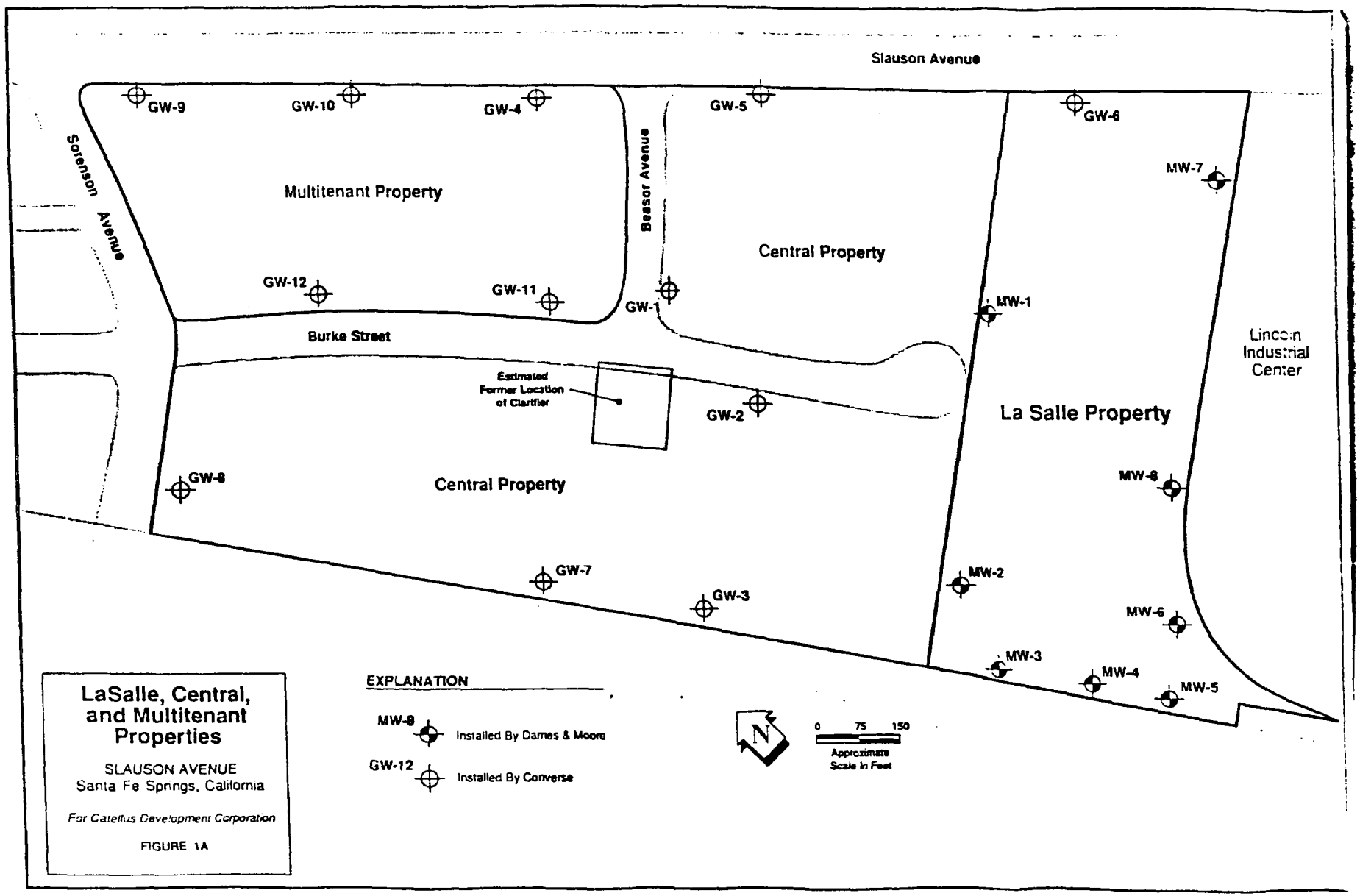
VICINITY MAP

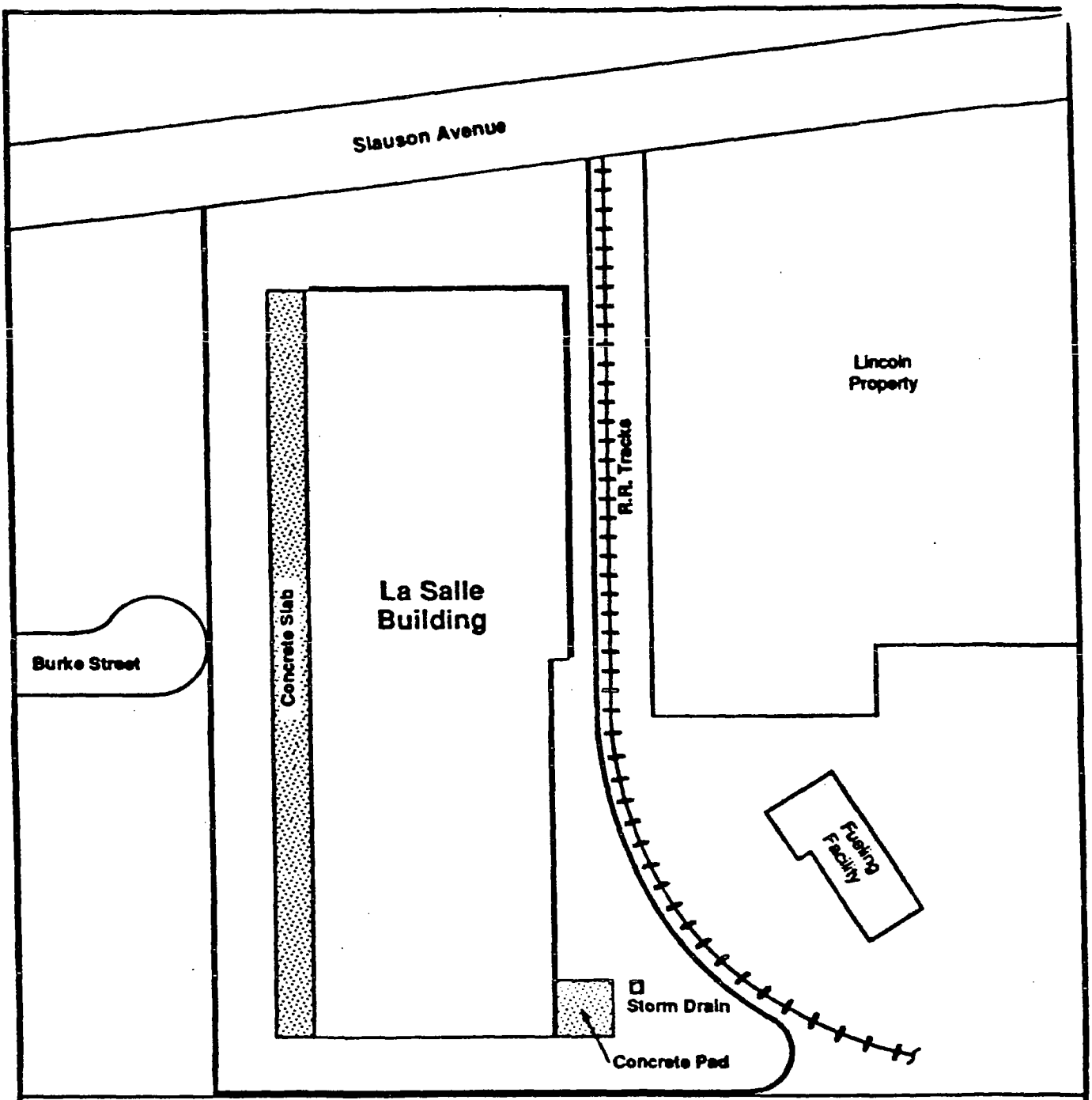
LA SALLE PROPERTY
12310 SLAUSON AVENUE
SANTA FE SPRINGS, CALIFORNIA

For Catellus Development Corporation

REFERENCE: USGS 7.5 Minute Series Topographic Map,
"Whittier, California" Quadrangle, Photorevised 1981.

Dames & Moore
FIGURE 1


Slauson Avenue
GW-9
GW-10
GW-4
GW-5
GW-6
Sorenson Avenue
Multitenant Property
Bessor Avenue
Central Property
MW-7
GW-12
GW-11
GW-1
MW-1
Burke Street
Lincoln Industrial Center
Estimated Former Location of Clarifier
GW-2
La Salle Property
GW-8
Central Property
MW-8
GW-7
GW-3
MW-2
MW-6
MW-3
MW-4
MW-5
LaSalle, Central, and Multitenant Properties
SLAUSON AVENUE
Santa Fe Springs, California
For Catellus Development Corporation
FIGURE 1A
EXPLANATION
MW-8 Installed By Dames & Moore
GW-12 Installed By Converse
N
0 75 150
Approximate Scale In Feet

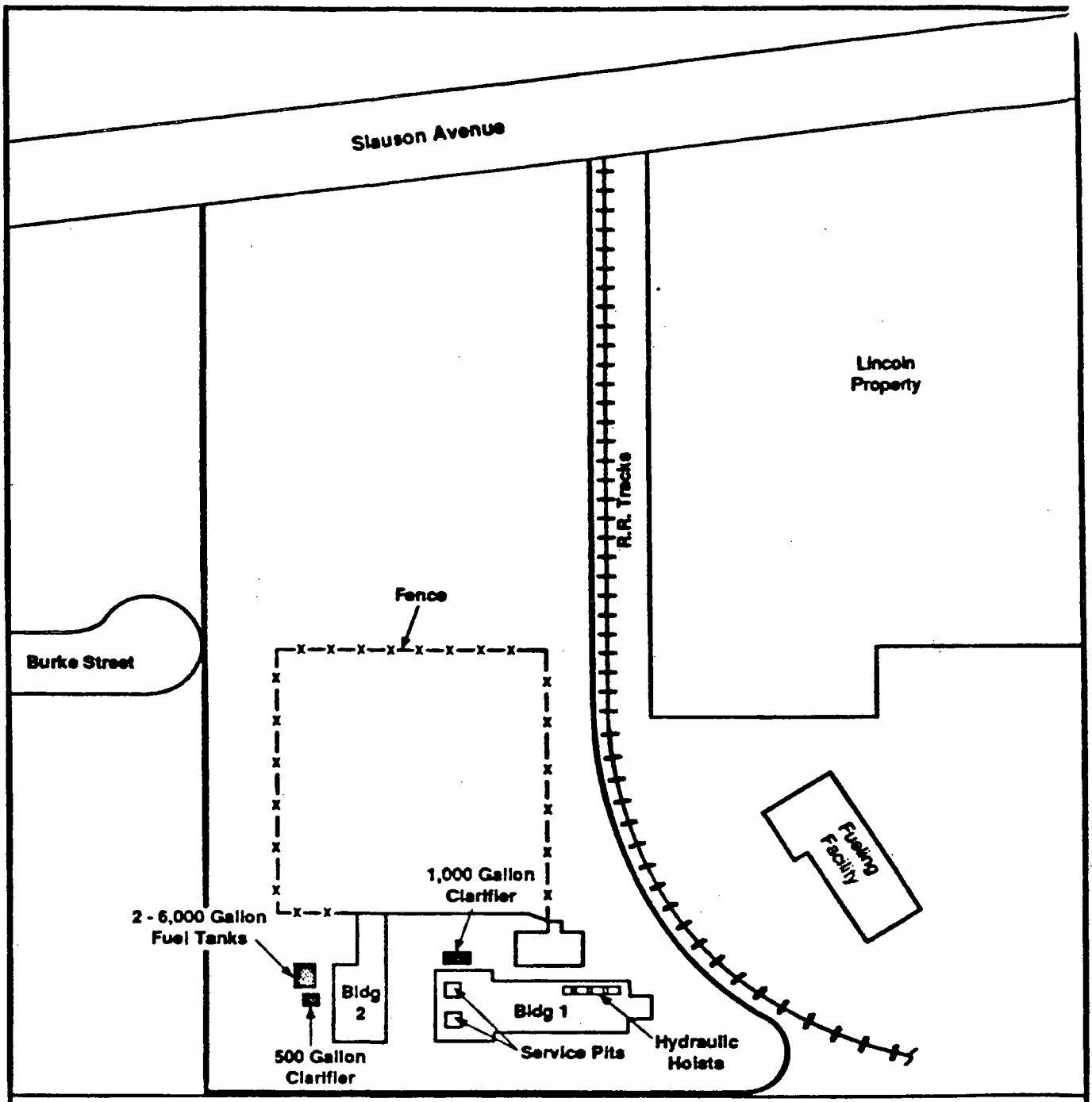


PLOT PLAN

LA SALLE BUILDING
12310 Slauson Avenue
Santa Fe Springs, California

For Catellus Development Company

Dames & Moore
FIGURE 2

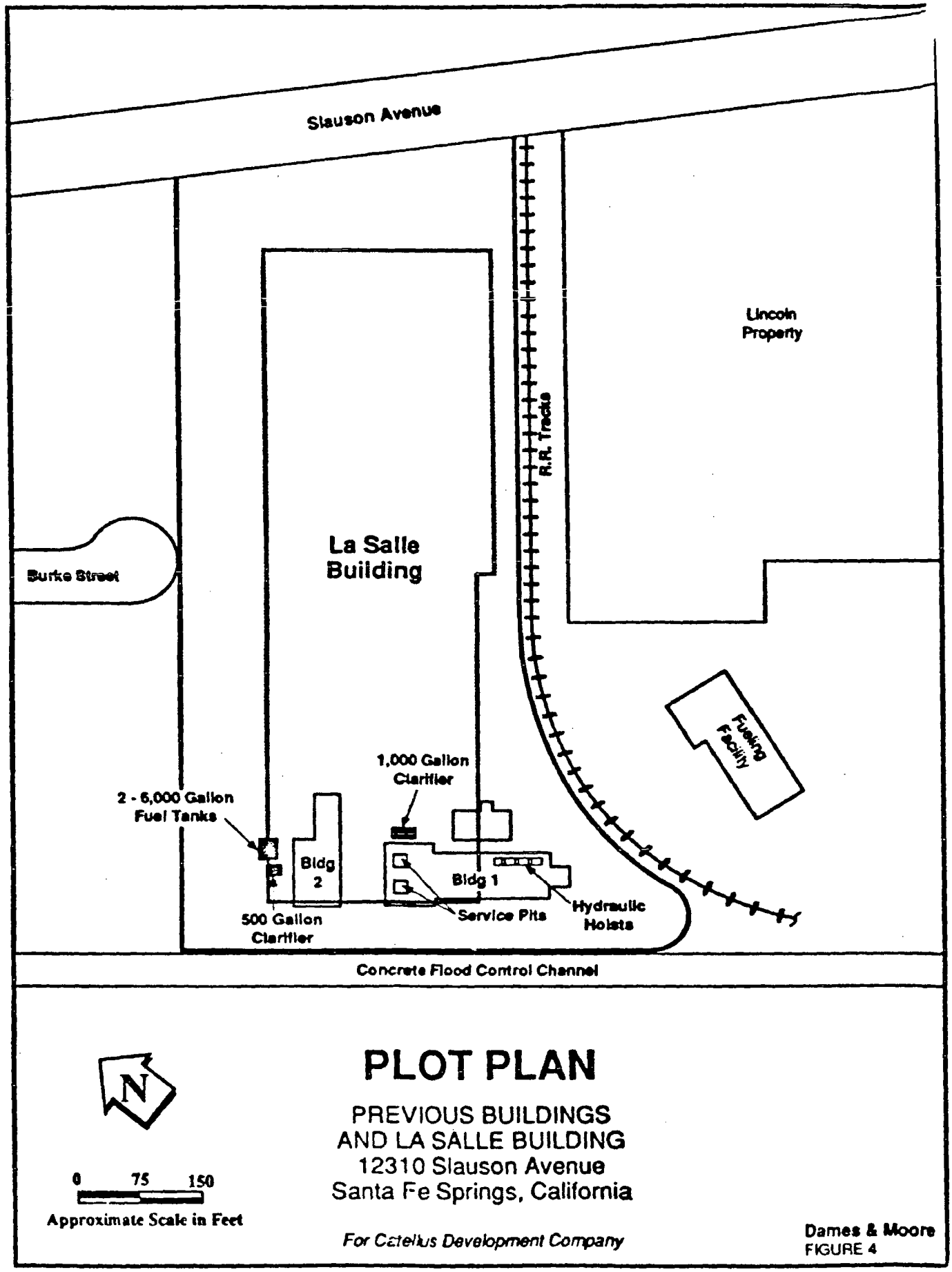


PLOT PLAN

PREVIOUS SITE FEATURES
APPROXIMATE LOCATIONS
12310 Slauson Avenue
Santa Fe Springs, California

For Catellus Development Company

Dames & Moore
FIGURE 3

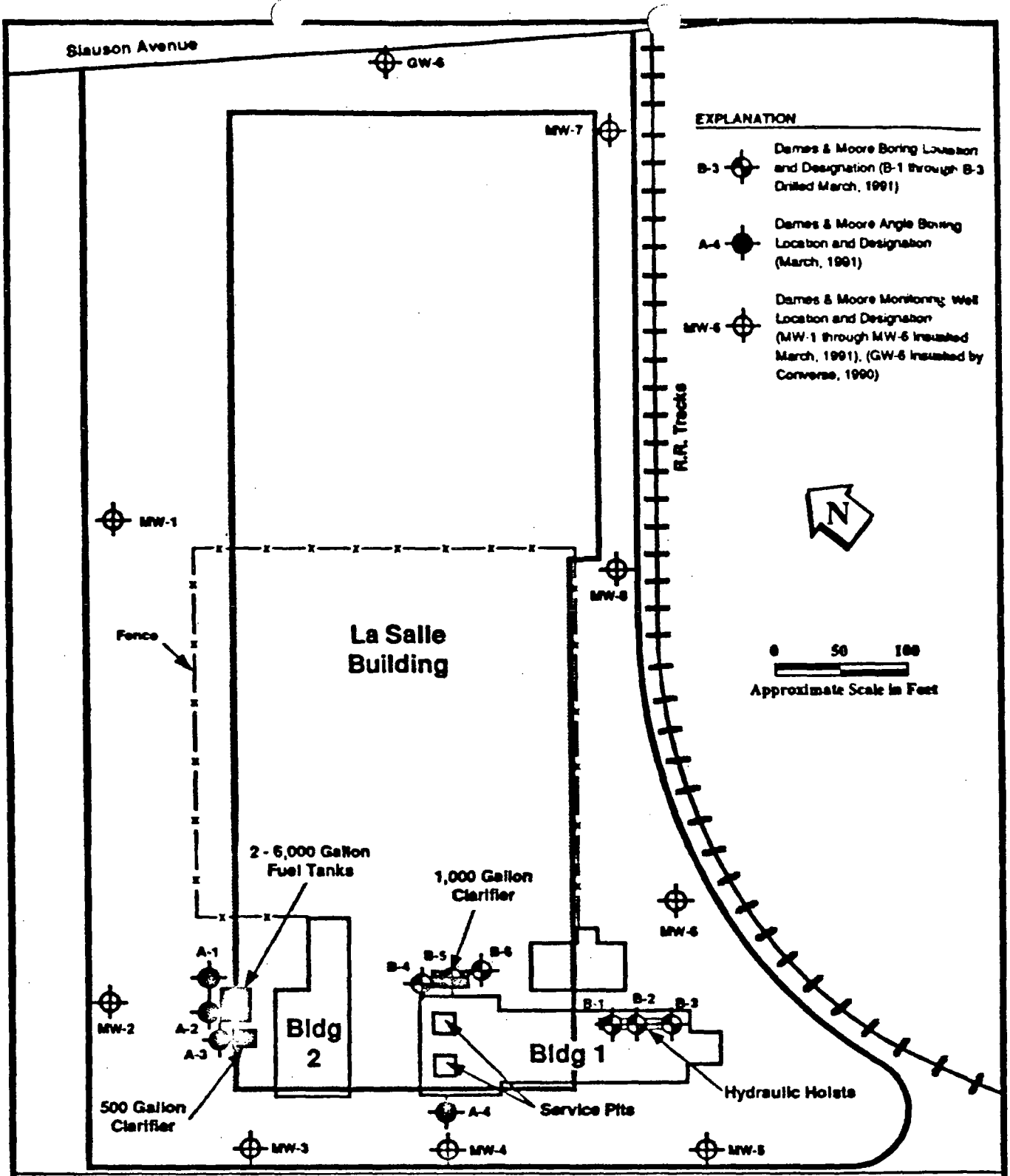


PLOT PLAN

PREVIOUS BUILDINGS
AND LA SALLE BUILDING
12310 Slauson Avenue
Santa Fe Springs, California

For Catellus Development Company

Dames & Moore
FIGURE 4



PLOT PLAN

BORING AND MONITORING WELL LOCATIONS

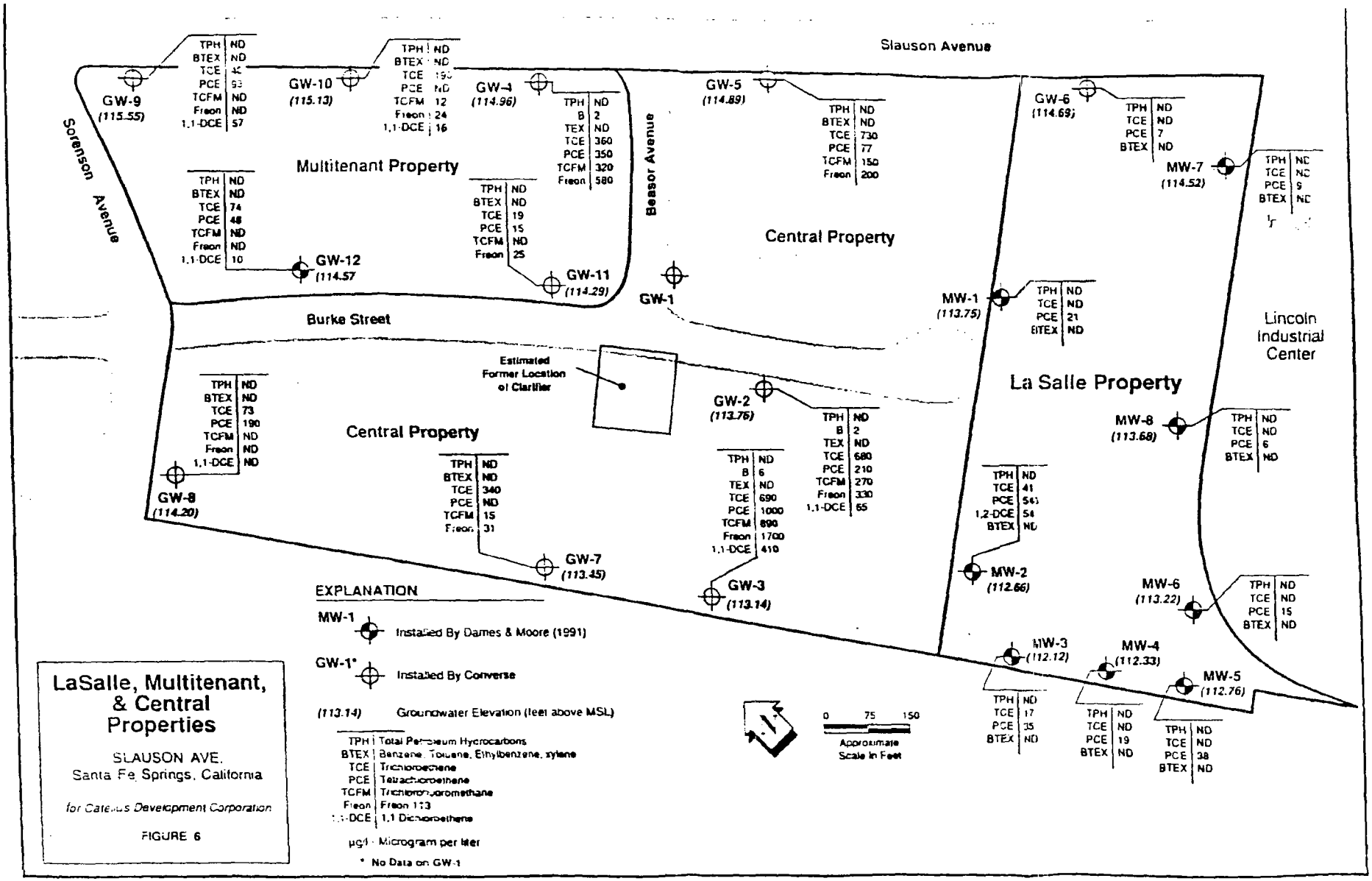
12310 Slauson Avenue

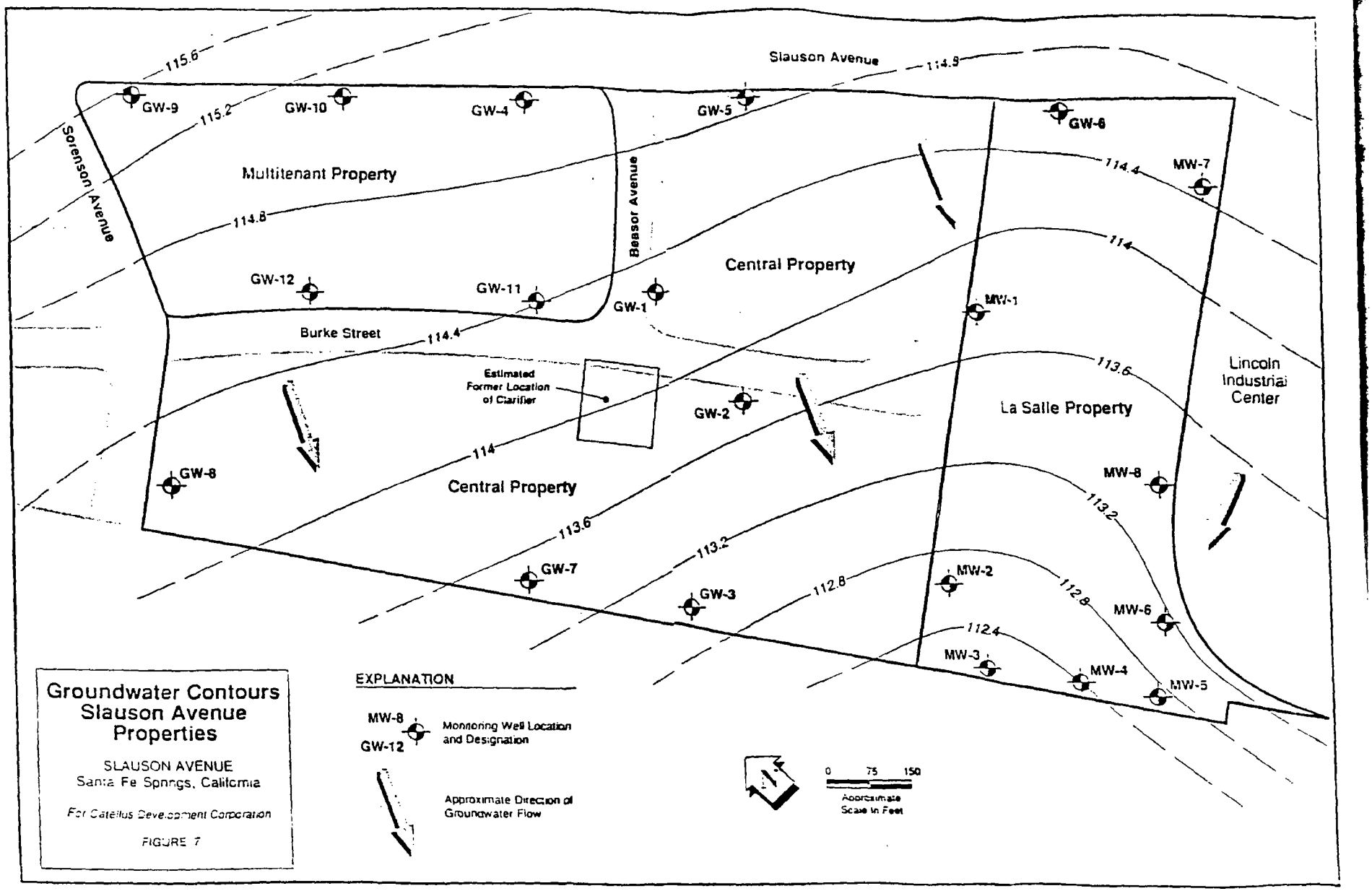
Santa Fe Springs, California

For Catellus Development Company

Dames & Moore

FIGURE 5


Slauson Avenue
Sorenson Avenue
Bessor Avenue
Burke Street
Multitenant Property
Central Property
Central Property
La Salle Property
Lincoln Industrial Center
Estimated Former Location of Clarifier
GW-9 (115.55)
GW-10 (115.13)
GW-4 (114.96)
GW-5 (114.89)
GW-6 (114.69)
GW-7 (114.52)
GW-12 (114.57)
GW-11 (114.29)
GW-1
GW-2 (113.76)
GW-8 (114.20)
GW-7 (113.45)
GW-3 (113.14)
MW-1 (113.75)
MW-8 (113.68)
MW-2 (112.66)
MW-6 (113.22)
MW-3 (112.12)
MW-4 (112.33)
MW-5 (112.76)
EXPLANATION
MW-1 Installed By Dames & Moore (1991)
GW-1* Installed By Converse
(113.14) Groundwater Elevation (feet above MSL)
TPH | Total Petroleum Hydrocarbons
BTEX | Benzene, Toluene, Ethylbenzene, xylene
TCE | Trichloroethene
PCE | Tetrachloroethene
TCFM | Trichlorofluoromethane
Freon | Freon 113
1,1-DCE | 1,1 Dichloroethene
µg/l - Microgram per liter
* No Data on GW-1
0 75 150
Approximate Scale in Feet
LaSalle, Multitenant, & Central Properties
SLAUSON AVE.
Santa Fe Springs, California
for Catellus Development Corporation
FIGURE 6


Slauson Avenue
Sorenson Avenue
Bessor Avenue
Burke Street
Multitenant Property
Central Property
Central Property
La Salle Property
Lincoln Industrial Center
Estimated Former Location of Clarifier
GW-9
GW-10
GW-4
GW-5
GW-6
GW-12
GW-11
GW-1
GW-2
GW-8
GW-7
GW-3
MW-1
MW-2
MW-3
MW-4
MW-5
MW-6
MW-7
MW-8
115.6
115.2
114.8
114.4
114
113.6
113.2
112.8
112.4
EXPLANATION
MW-8
GW-12
Monitoring Well Location and Designation
Approximate Direction of Groundwater Flow
0
75
150
Approximate Scale in Feet
Groundwater Contours
Slauson Avenue
Properties
SLAUSON AVENUE
Santa Fe Springs, California
For Catellus Development Corporation
FIGURE 7